

**ABSTRACT OF THE DISCLOSURE**

What is described here is a system for compensating distortions induced by polarisation modulation dispersion (PMD) in optical transmission systems and in transmission fibres in particular, comprising

- a means for measuring PMD-induced distortions,
- an emulator unit for adjustable PMD levels, and
- a controller which the output signal of said measuring means is applied to and which serves to control said emulator unit.

In accordance with the invention both the emulator unit and the measuring means are improved for the PMD-induced distortions as well as the controller and the applied control criterion (alone or in combination).

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